The State Fiscal Costs of a First-Time Farmer Tax Exemption

Dave Swenson
Department of Economics
Iowa State University
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This assessment looks at the potential costs to the state of Iowa were it to institute a state tax exemption on the first $15,000 of income received from the lease of farm assets to a first-time farmer. The purposes of this program are to promote the entry into farming by newcomers and to support the transition of existing farm operations and assets to new operators. The average age of farmers is increasing, which underscores the potential reason for turning to state tax policy to assist the entry of first-time and younger farmers into the profession. Nationally, between 1997 and 2002, the average age of farm operators increased 1.3 years from 54 to 55.3.

The Data

The Iowa State Department of Revenue was consulted in this analysis as tax data for specific types of occupations are generally difficult to obtain in Iowa.[*] While all Iowa income tax filers are required to list their occupation on their tax form 1040, the state of Iowa does not code that information. An alternative approach flagged all income tax filers that had a Schedule F (Profit or Loss from Farming) as part of their returns. These would be persons detailing income and costs associated with current farming operations.

We are not interested in all farmers in Iowa, so some additional screening was necessary. In specific, we are interested in farmers who would be more likely to be of the age and circumstances that they would be candidates for transferring land to a beginning farmer – typically older farmers. The Iowa Department of Revenue also flagged filers that were receiving social security payments. That means that the filers chosen from this subset for analysis are also predominantly ages 62 and higher – those eligible for social security..

These data were supplemented from 2000 census of population and housing data for the state of Iowa, specifically the Public Use Micro-Sample of the population. These data were used to identify those persons who identified farming as their main occupation and were at least 50 years of age. We then identified their

[*] Michael Lippsman, an analyst at the Iowa Department of Revenue, did the programming that provided tax statistics on farmers in Iowa who were receiving social security payments.

total incomes from all sources in order to estimate these farmers' income distributions and to estimate their potential tax liability in Iowa.

When we combined information on farmers receiving social security payments with the data from the 2000 census, we were able to allocate our farmers across the different income and tax liability levels and to cross validate the Department of Revenue and Finance data and the census data.

In Table 1 we have identified an estimated 57,504 persons in Iowa who listed farming as their principal occupation. According to that distribution, about 34,200 had adjusted gross incomes (AGI) of $25,000 or less, while just 2,559 had an AGI in excess of $150,000 AGI per tax paying farmer increases from $9,885 for those in the fist bracket to $574,700 for those in the top bracket. The average AGI for all farmers in this estimation model is $28,894. Average annual taxes range from $80 in the bottom bracket to $34,588 in the top. The average for all farmers is $832.

Table 1

State of Iowa Farmer Tax Filers Who are Ages 50 and Older

Income Group	Number of Filers	Adjusted Gross Income* (AGI)	Average AGI per Filer	State Taxes Paid	Tax Per Filer
Up to 25,000	34,193	337,997,000	9,885	2,746,418	80
25,000 to 50,000	15,125	517,988,000	34,247	12,592,525	833
50,000 to 75,000	4,812	280,474,000	58,286	8,726,399	1,813
75,000 to 100,000	936	79,991,820	85,461	2,945,528	3,147
150,000 to 250,000	2,438	375,525,421	154,030	16,665,888	6,836
250,000 or more	121	69,538,579	574,699	4,185,130	34,588
Total	57,504	1,661,514,820	28,894	47,861,888	832

Aligning the Data with Average Iowa Tax Payments

The state of Iowa annually publishes state tax data that display income distributions between zero income and $100,000 or more. The next estimation step involved aligning the Department of Revenue special run data and the census income distributions for farmers with the data the state typically produces. The reason for this estimation procedure is to determine the average expected effective tax rates for tax filers in Iowa versus marginal tax rates. While Iowa published tax rates are relatively clear-cut and easy to understand, the average filer pays at a level substantially below the published rate because of associated personal and dependent credits that are claimed. In addition, because the Iowa data contain a wealth of data in relatively narrow income detail for filers below $100,000 in incomes, we can construct a linear formula using least-squares estimation procedures to determine the expected tax rates for different filers in different income classes. The actual apportionment is displayed in an appendix table.

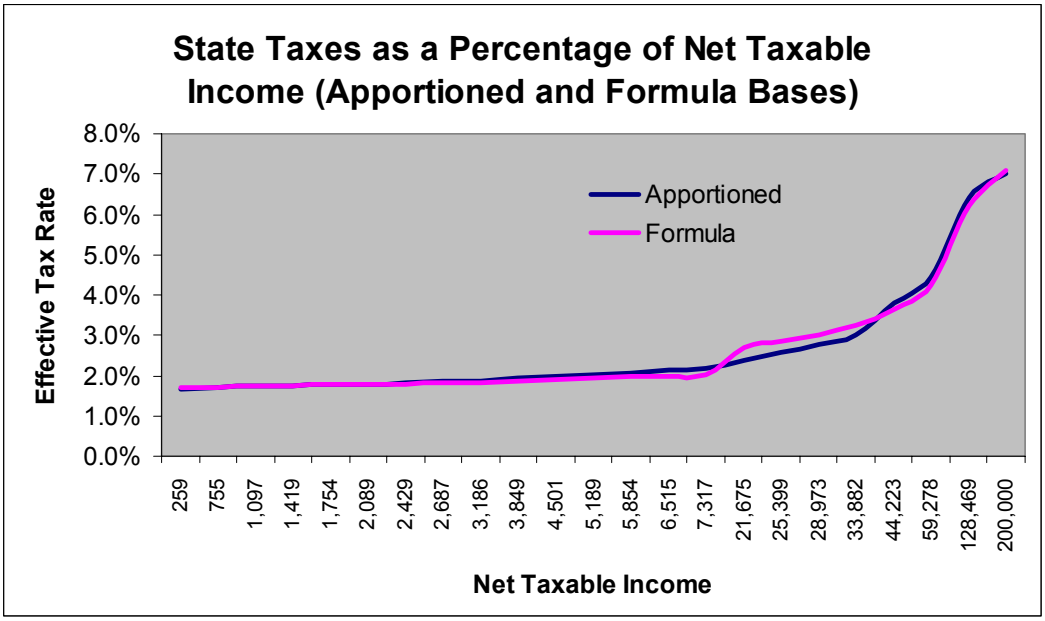
Once compiled, we can model both expected net taxable income (from adjusted gross income) and the effective tax rates associated with each income level.

The estimation formula using the apportioning table was:

> Iowa Tax Rate = f(NTI, NTI^2), where NTI^2 assumes a progressive curve upward in the rates as incomes increase.
>
> Iowa Taxes = (0.016779+ 4.98156E-07 **NTI** + -1.13723E-12**NTI**^{2})**NTI**
> (where NTI equals Net Taxable Income)

The plot of the apportioned and the modeled (formula) values are displayed below:

Figure 1



The apportioned and the formula (or predicted) tax rates track very closely, and the formula rates were employed in the subsequent fiscal assessment modeling. The effective rate for the highest income group was capped at 8.5 percent in our model.

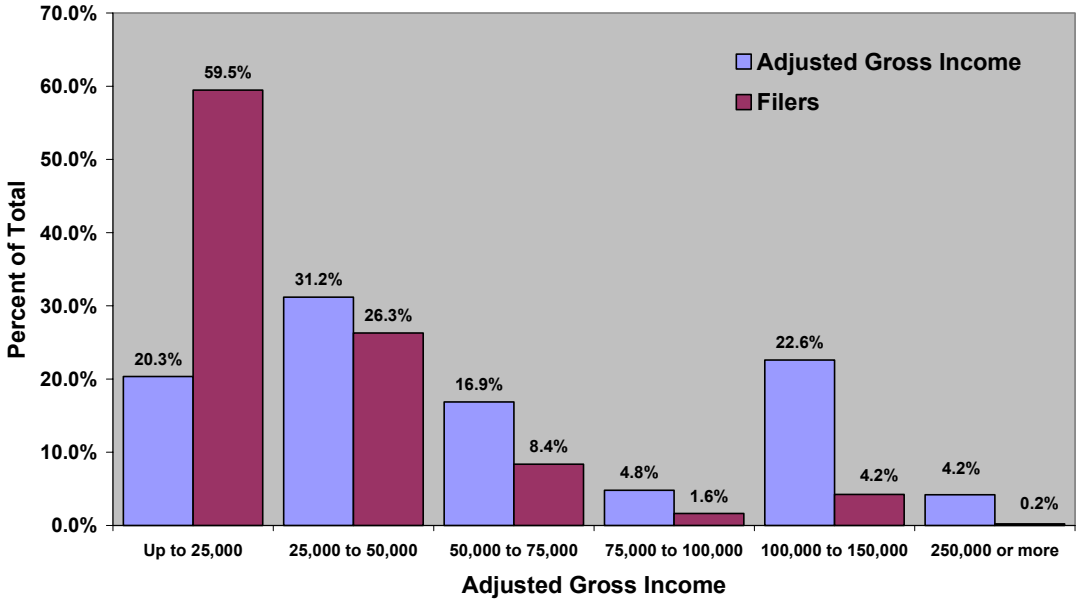
Modeling the State Fiscal Impacts

At the outset, we have no knowledge of where participation in such a program might come from in terms of the distribution farmers ages 50 and older among the income groups. Looking at Figure 2 we can see that 85.8 percent of the filers reported AGIs of $50,000 or less, but that those filers commanded just 51.5

percent of reported AGI. In contrast, those making $75,000 or more were just 6 percent of all filers, but had 31.6 percent of the AGI for this group of tax filers.

Figure 2

The Distribution of Filers and Adjusted Gross Incomes by Income Category



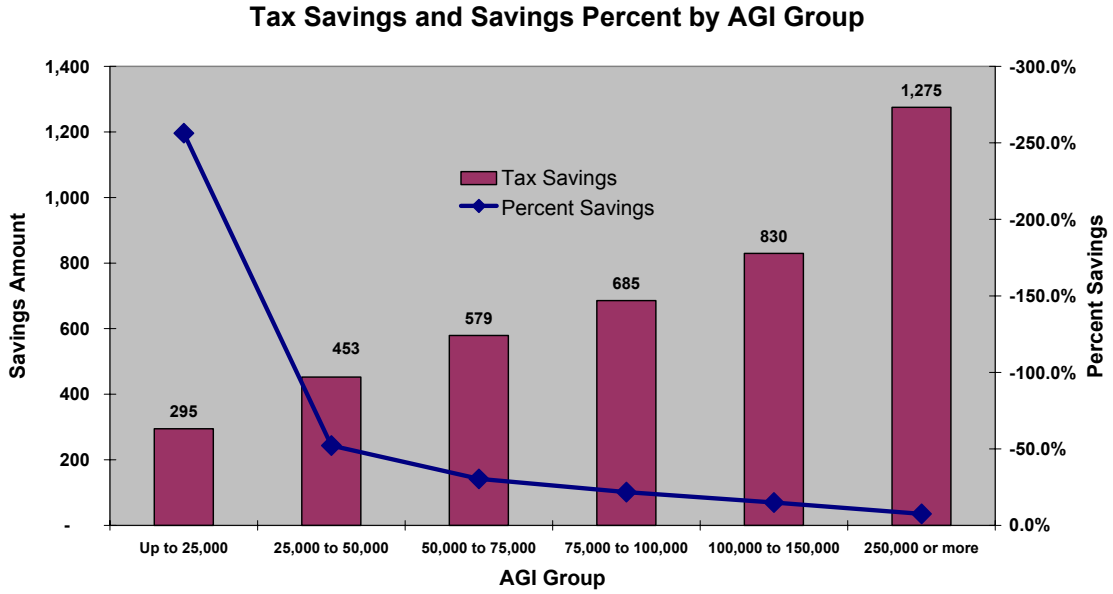
As an incentive to potential participation, however, the dollar value of the program to filers grows as income and tax liability grows. Numerically we can get more participants out of lower income filers, but financially, greater tax cuts will accrue to higher income filers.

Figure 3 displays the average tax savings and savings as a percent of pre-exemption tax liability for filers in different income groups. For those filers whose AGI is $25,000 or lower, the average tax break would be $295. It grows to $579 annually for those with AGIs of $50,000 to $75,000, $830 for those in the $100,000 to $150,000 bracket, and then it grows to $1,275 for farmer/filers with AGIs of $250,000 or more*. Conversely, savings as a percentage of original tax liability are highest for the farmers in the lower AGIs. The model actually estimates potential

* Iowa's top marginal rate is 8.98 percent, but that rate does not accrue until the filers' net taxable incomes exceed $95,150. Consequently, it is extremely rare in Iowa that the top rate paid by any filer exceeds 8.5 percent. At that rate, the tax savings for a $15,000 reduction in taxable income is $15,000 X .085 = $1,275. That would be the average rate and tax savings for a person with from $200,000 to $250,000 in taxable income.

negative taxes for those at the bottom AGI, though realistically their liability would only be reduced to zero. A 52 percent reduction in state tax liability would accrue to those with $25,000 to $50,000 AGIs, on average, and the reduction drops to a 12.5 percent for those in the top AGI.

Figure 3



It is evident that there are mixed incentives: lower income elderly farmers would realize proportionately greater reductions in state tax liability though the values would be very low, while upper income elderly farmers would realize substantially higher amounts of reductions per filer/participant. To accommodate the two potential distributions, I compiled the estimates first using the filer distributions as weights, and next using the distribution of incomes by AGI group as weights. Those summaries are contained in Table 2.*

* All of the estimates were made using the weighted average adjusted gross incomes within each bracket. For those under $25,000 the average AGI was $14,153, for the $25,000 to $50,000 group average AGI was $35,692, for the $50,000 to $75,000 group average AGI was $61,285, for $75,000 to $100,000 average AGI was $85,461, for those over $100,000 average AGI was $125,000, and the last value was $250,000.

Table 2

Potential State Revenue Fiscal Effects of the Income Tax Exemption

Income Group	Distribution by Filer	Estimate 1. Tax Impacts (Weighted by Filer)	Distribution by AGI	Estimate 2. Tax Impacts (Weighted by AGI)	Estimate 3. Average of the Filer and AGI Estimates
Up to 25,000	595	175,307	203	59,975	117,641
25,000 to 50,000	263	119,019	312	141,070	130,044
50,000 to 75,000	84	48,461	169	97,759	73,110
75,000 to 100,000	16	11,156	48	32,998	22,077
100,000 to 150,000	40	33,183	226	187,497	110,340
250,000 or more	2	2,683	42	53,362	28,022
Total	1,000	$ 389,809	1,000	$ 572,660	$ 481,235

The estimates are compiled per-1,000 participants in order to illustrate the potential cost of the program and to provide an easily-scalable index for the state revenue fiscal impacts were the actual participation greater or less than 1,000. Using the filers by income group as the weights (Estimate 1), 1,000 participants would result in $389,809 in reduced state taxes to the participating farmers and to the state of Iowa.

Using the distribution of AGI by income group as an indication of the probability of participation (Estimate 2), the costs grow to $572,660 in reduced taxes to the farmers and to the state of Iowa. This cost is much higher because a larger, weighted fraction of this group's income is subject to higher taxes.

The average of the two ranges of costs yields $481,235 in reduced tax collections from farmers (Estimate 3). In reality, incentives to participate in this program would accrue to those in the higher income groups; consequently, reviewers should pay more attention to the amounts recorded in Estimate 2.

Limits to this Assessment

The actual costs of this type of program are unknown as there is, of yet, no indication of the potential participation that could be expected by mentor farmers. There are also secondary fiscal effects to consider. Lowering farmers' taxes via a program like this reduces their deductions on federal taxes, which are taxed at a much higher level. Yet, Iowa is a federal deductibility state, and increased federal liability comes full-circle and reduces state tax liability. No effort has been made in this assessment to calculate these potential tax shifts or the net tax reduction to our participating farmers considering both federal and state tax laws.

Readers will also note that the rate differentials among income groups utilized in this assessment (see appendix) differ from the actual marginal rates listed

in State of Iowa tax tables. The modeled data are much more reflective of the expected tax payments by income groups than the tax tables because they factor in personal and dependent credit information and other tax reductions typical of different income filers. Modelers that rely only on state tax tables are very likely to significantly over-estimate tax costs to the state and tax savings to farmers.

Finally, these data look at just one year of farmer income data. Experienced analysts know that farmer annual incomes are quite variable. As a consequence, as many as half of all Iowa farmers may not even file income tax returns in any given year, according to officials at the Iowa Department of Revenue. It is also important to remember that the farmers analyzed for this report are over the age of 50 – they represent a unique subset of Iowa farm operators/owners and the tax characteristics of this group should not be generalized to all Iowa farmers.

Appendix*

Apportioning Age 50 Plus Farmer Filer Information to Existing State Tax Tables

Adjusted Gross Income Brackets	Apportioned Returns	Adjusted Gross Income	Net Taxable Income	State Taxes Paid	Effective Tax Rates	Published Tax Rates
$1 - $2,999	3,246	4,026,813	1,515,685	528	0.87%	0.85%
$3,000 - $3,999	1,556	3,955,337	2,116,540	289	0.90%	1.24%
$4,000 - $4,999	1,593	5,204,673	3,148,796	894	0.92%	1.49%
$5,000 - $5,999	1,578	6,295,173	4,032,460	3,232	0.95%	2.00%
$6,000 - $6,999	1,535	7,236,340	4,849,316	8,718	0.97%	2.36%
$7,000 - $7,999	1,499	8,152,341	5,640,568	16,249	0.99%	2.63%
$8,000 - $8,999	1,456	8,980,162	6,372,130	23,752	1.01%	2.84%
$9,000 - $9,999	1,418	9,772,511	6,862,261	43,336	1.03%	3.01%
$10,000 - $11,999	2,730	21,778,349	15,667,915	120,044	1.06%	3.38%
$12,000 - $13,999	2,685	25,325,343	18,615,473	169,354	1.11%	3.77%
$14,000 - $15,999	2,698	29,374,286	21,873,041	234,993	1.15%	4.07%
$16,000 - $17,999	2,730	33,680,651	25,514,696	317,522	1.20%	4.30%
$18,000 - $19,999	2,745	37,845,535	28,940,900	409,932	1.24%	4.51%
$20,000 - $21,999	2,729	41,569,427	32,019,440	498,888	1.29%	4.69%
$22,000 - $24,999	3,994	68,082,471	52,638,417	898,685	1.34%	4.91%
$25,000 - $29,999	4,550	122,366,096	94,618,801	2,725,986	2.81%	5.32%
$30,000 - $34,999	3,798	120,593,528	92,572,187	2,889,016	3.04%	5.45%
$35,000 - $39,999	2,938	107,653,968	81,666,122	2,679,930	3.26%	5.71%
$40,000 - $49,999	3,839	167,374,408	124,816,602	4,297,593	3.57%	6.15%
$50,000 - $74,999	4,812	280,474,000	202,388,412	8,726,399	4.31%	7.02%
$75,000 - $99,999	936	79,991,820	55,483,856	2,945,528	5.31%	7.51%
$100,000 AND OVER	2,780	445,064,000	289,116,858	20,851,018	7.21%	Up to 8.5%
	57,846	1,634,797,232	1,170,470,476	47,861,888	4.09%	

Note: Effective rates are those typical of Iowa filers in the published income groups. Published rates are rates applied to net taxable income before the deduction of credits. Tax rates paid by typical Iowans are the effective tax rates.

* Column totals for Table 1 and this appendix table differ slightly. The values in Table 1 excludes farmer-filers with negative incomes, whereas the appendix table contains apportioned estimates for all for the filers.